City of Cleveland
Bike Sharing Feasibility Study and Implementation Plan 2012

November 20, 2013

Toole Design Group
BrownFlynn, Ltd.
Transystems
Overview
Feasibility Study Findings
Business and Implementation Plan
• Costs
• Business model
• Regulatory and Permitting Considerations
Challenges/Opportunities
Next Steps
Overview

- Bike share spreading throughout the US – over 40 systems
- Bike Share Task Force
- Mayor’s Office of Sustainability funded study with contribution from GCRTA
- Toole Design Group competed for RFP, hired in January 2013
  - Feasibility Study completed in September
  - Business and Implementation Plan completed in November

Source: Capital Bikeshare (Washington, DC)
Cleveland bicycle commute mode share increase (ACS):
• From 2009 UP 111%
• Since 2000 UP 280%
Bicycles on RTA buses and trains:
• 14% increase between 2011 and 2012
Why Bike Sharing in Cleveland?

• Increased mobility options
• Complement RTA and other modes
• Reduced traffic congestion
• Environmental, social, economic and health benefits
• Job creation
• Economic Development

Users can return bikes to any other station within the system...

Source: Capital Bikeshare (Washington, DC)

Source: Deco Bike
Feasibility Study

- Community engagement
- Demand Analysis
- Proposed Bike Share Market
- Overall Recommendation
762 Responses

- 1 out of 3 have used bike share in another city.
- 85% of respondents currently own or have access to a bicycle.
- 95% support bike sharing for Cleveland.

When asked about how bike share would be used, more than half of respondents indicated transportation purposes.
Stakeholders were asked to identify locations where they would like to see bike share stations.

Station suggestions:

- Downtown: 34%
- University Circle: 14%
- Detroit-Shoreway: 11%
- Ohio City: 10%
Community Engagement: Public Workshop

Cleveland Public Library
April 26, 2013
Over 40 attendees
Positive Feedback
Meetings with Community Stakeholders

– Cuyahoga County
– Cleveland Metroparks
– St. Luke’s Foundation
– Case Western Reserve University
– Complete and Green Streets Task Force
– Potential Sponsors

Objectives

– Educate agency stakeholders about bike share
– Gauge interest for potential partners
– Identify the potential value of bike share
– Determine regulatory process for bike share
Demand Analysis Heat Map

DEMAND FACTORS:
- High Employment
- Transit Stations
- Bicycle Mode Share
- Population Density
- Planned/Existing bicycle facilities
- Income
- Proximity to Destinations
Peer Bike Share Systems

<table>
<thead>
<tr>
<th>City</th>
<th>Population</th>
<th>Area (sq. mi.)</th>
<th>Pop-Density</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boston</td>
<td>617,594</td>
<td>48</td>
<td>12,793 per sq mi</td>
</tr>
<tr>
<td>Washington, DC</td>
<td>601,723</td>
<td>61</td>
<td>9,856 per sq mi</td>
</tr>
<tr>
<td>Denver</td>
<td>600,158</td>
<td>153</td>
<td>3,923 per sq mi</td>
</tr>
<tr>
<td>Minneapolis</td>
<td>382,578</td>
<td>54</td>
<td>7,088 per sq mi</td>
</tr>
<tr>
<td>Chattanooga</td>
<td>167,674</td>
<td>137</td>
<td>1,223 per sq mi</td>
</tr>
<tr>
<td>Cleveland</td>
<td>396,815</td>
<td>78</td>
<td>5,107 per sq mi</td>
</tr>
</tbody>
</table>
### System Recommendation

**Zone 1 (Downtown + University Circle):**
- 500-850 Bikes/50-85 Stations

**Zone 2 (Detroit Shoreway, Tremont, Old Brooklyn and Midtown):**
- 270-550 Bikes/27-55 Stations

**System Build-Out:**
- 770-1,400 Bikes/77-140 Stations

<table>
<thead>
<tr>
<th>Zone</th>
<th>1A</th>
<th>1B</th>
<th>2A</th>
<th>2B</th>
<th>2C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Square miles</td>
<td>5.0</td>
<td>5.1</td>
<td>4.8</td>
<td>3.6</td>
<td>6.9</td>
</tr>
<tr>
<td>Station Density (p. sq. mi.)</td>
<td>5.9 – 9.9</td>
<td>3.9 – 6.7</td>
<td>2.1 - 4.2</td>
<td>1.9 – 4.2</td>
<td>1.4 – 2.9</td>
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<tr>
<td>Residential</td>
<td>21,000</td>
<td>30,000</td>
<td>31,500</td>
<td>18,500</td>
<td>41,000</td>
</tr>
<tr>
<td>Employment</td>
<td>103,000</td>
<td>57,500</td>
<td>10,000</td>
<td>9,000</td>
<td>15,000</td>
</tr>
</tbody>
</table>

**Proposed Bike Share Market Area**
Feasibility Assessment

Bike share is appropriate for Cleveland:

**Challenges:**
- Securing funding
- Developing organizational capacity
- Improving bicycle infrastructure
- Sponsorship / ad regulations
- Addressing “car” culture

**Opportunities:**
- Emerging bicycle culture
- Candidate funding partners
- Positive feedback from community & Stakeholders
Business and Implementation Plan

- System goals
- System governance
- Business plan
- Implementation considerations
- Timeline

Source: Deco Bike, Hubway, Boulder B-cycle
### System Goals

<table>
<thead>
<tr>
<th>Goals</th>
<th>Objectives</th>
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<tbody>
<tr>
<td>Operational Excellence</td>
<td>Create positive user experiences to maintain customers and attract new users.</td>
</tr>
<tr>
<td>Livability &amp; Economic Competitiveness</td>
<td>Develop an innovative transportation system that improves Cleveland’s livability and economic competitiveness.</td>
</tr>
<tr>
<td>Finances &amp; Transparency</td>
<td>Create a system that is financially sustainable, transparently operated, and accountable to the public.</td>
</tr>
<tr>
<td>Social &amp; Geographic Equity</td>
<td>Provide a system that is accessible to a broad cross-section of people living in and visiting Cleveland.</td>
</tr>
<tr>
<td>Health &amp; Safety</td>
<td>Provide Cleveland residents and visitors a safe mode of transportation that promotes active and healthy living.</td>
</tr>
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</table>
Business Model Consideration

Roles

- Ownership
- Administration
- Operation

Agents

- Public
- Non-Profit
- Private Vendors

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<thead>
<tr>
<th>Ownership</th>
<th>Administration</th>
<th>Operation</th>
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<tbody>
<tr>
<td>Public</td>
<td>Public</td>
<td>Public</td>
</tr>
<tr>
<td>Public</td>
<td>Public</td>
<td>Non-Profit</td>
</tr>
<tr>
<td>Public</td>
<td>Public</td>
<td>Private Vendor</td>
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<tr>
<td>Public</td>
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<td>Private Vendor</td>
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<tr>
<td>Non-Profit</td>
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<tr>
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Completely Public Model
Public Hybrid
Public Hybrid
Public Hybrid
Public Hybrid
Non-Profit Hybrid
Non-Profit Hybrid
Non-Profit Hybrid

Source: Deco Bike
Source: Capital Bikeshare
Source: Hubway
Source: NiceRide
Source: Spartanburg Cycle
Source: Deco Bike
Non-Profit Model

- Non-Profit model recommended for Cleveland – best meets goals of program
  - Diversity of funding
  - Balance of control
  - Transparency
  - Risk limited to NPO
- Can be existing or new non-profit
- NPO undertakes fundraising, contract management and (potentially) operations
- Has formal relationship with City
- Denver and Minneapolis both non-profit operators
Business Plan: Model Assumptions

Timing
Zone 1 – Q3 2014
Zone 2 - 2017

Pricing
Membership:
• $80 Annual
• $8 daily

Fees
• First 30 min free
• Sliding scale every 30 additional minutes.

Average Station Size
19 docks / 10 bikes
## System Assumption

**Zone 1 (Downtown + University Circle):**  
700 Bikes/70 Stations  

**Zone 2 (Detroit Shoreway, Tremont, Old Brooklyn and Midtown):**  
400 Bikes/40 Stations  

**System Build-Out:**  
1,100 Bikes/110 Stations

### Business Plan: Model Assumptions

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<td>3.6</td>
<td>6.9</td>
</tr>
<tr>
<td>Bikes / stations</td>
<td>400/40</td>
<td>300/30</td>
<td>150/15</td>
<td>100/10</td>
<td>150/15</td>
</tr>
<tr>
<td>Station Density (p. sq. mi.)</td>
<td>8.0</td>
<td>5.9</td>
<td>3.1</td>
<td>2.8</td>
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</tr>
</tbody>
</table>
## Business Plan: Results

<table>
<thead>
<tr>
<th></th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
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</thead>
<tbody>
<tr>
<td>Bikes / stations</td>
<td>700 / 70</td>
<td>700 / 70</td>
<td>700 / 70</td>
<td>1100 / 110</td>
<td>1100 / 110</td>
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<tr>
<td>Annual members</td>
<td>650</td>
<td>4,550</td>
<td>6,050</td>
<td>8,100</td>
<td>13,700</td>
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<tr>
<td>Casual members</td>
<td>7,000</td>
<td>38,000</td>
<td>42,000</td>
<td>47,000</td>
<td>66,000</td>
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<tr>
<td>Rides</td>
<td>21,000</td>
<td>284,000</td>
<td>415,000</td>
<td>514,000</td>
<td>857,000</td>
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<tr>
<td>Capital and installation costs</td>
<td>$4.2 m</td>
<td></td>
<td></td>
<td>$2.1 m</td>
<td></td>
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<tr>
<td>System revenues</td>
<td>$144,614</td>
<td>$890,248</td>
<td>$1,079,730</td>
<td>$1,316,066</td>
<td>$2,051,761</td>
</tr>
<tr>
<td>Operating costs</td>
<td>$(378,061)</td>
<td>$(1,555,046)</td>
<td>$(1,599,134)</td>
<td>$(1,856,064)</td>
<td>$(2,561,313)</td>
</tr>
<tr>
<td>Operating Fundraising Need</td>
<td>$(233,446)</td>
<td>$(664,798)</td>
<td>$(519,404)</td>
<td>$(539,998)</td>
<td>$(509,552)</td>
</tr>
<tr>
<td>User Fee Recovery</td>
<td>38.3%</td>
<td>57.2%</td>
<td>67.5%</td>
<td>70.9%</td>
<td>80.1%</td>
</tr>
</tbody>
</table>

*Operating Fundraising Need can be lower if membership beats projections or operations cost (assumed $80 / dock / month) can be reduced.*

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*Estimates only. Contract negotiations with vendor and ultimate size/scope of program will determine the final capital and operating costs.*
Implementation Considerations

- Technology options
- Performance standards
- System access
- Safety
- Liability
- Station placement
- Reinvestment into system
## Implementation Timeline

| Critical Path Item                                                      | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 |
|------------------------------------------------------------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Identify implementing organization                                    |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |
| Identify limited early funding                                        |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |
| Hire executive director                                                |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |
| Search for federal and sponsorship funding                             |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |
| Issue RFP for equipment and/or operations                              |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |
| Sign contract for equipment and/or operations                          |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |
| Launch system                                                          |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |

CITY OF CLEVELAND – BIKESHARE FEASIBILITY STUDY AND IMPLEMENTATION PLAN